

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/12789

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/82 C12N1/13 C07K14/415 C07K14/47

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, EMBL, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	ZASLAVSKAIA L A ET AL: "Trophic conversion of an obligate photoautotrophic organism through metabolic engineering." SCIENCE (WASHINGTON D C), vol. 292, no. 5524, June 2001 (2001-06), pages 2073-2075, XP002184007 ISSN: 0036-8075 the whole document <p style="text-align: center;">--- -/--</p>	1-22

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

26 November 2001

Date of mailing of the international search report

15/01/2002

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	VAZHAPPILLY REMA ET AL: "Eicosapentaenoic acid and docosahexaenoic acid production potential of microalgae and their heterotrophic growth." JOURNAL OF THE AMERICAN OIL CHEMISTS' SOCIETY, vol. 75, no. 3, March 1998 (1998-03), pages 393-397, XP002184008 ISSN: 0003-021X table 1	1,2,6,7, 11-14
X	HU DONGLI ET AL: "The <i>C. reinhardtii</i> CF1 with the mutation betaT168S has high ATPase activity." FEBS LETTERS, vol. 421, no. 1, 2 January 1998 (1998-01-02), pages 65-68, XP002184009 ISSN: 0014-5793 page 68, left-hand column, last paragraph -right-hand column	1,2,6,7, 11-13
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X	HALLMANN ARMIN ET AL: "The <i>Chlorella</i> hexose/H+ symporter is a useful selectable marker and biochemical reagent when expressed in <i>Volvox</i> ." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 93, no. 2, 1996, pages 669-673, XP002184010 1996 ISSN: 0027-8424 the whole document	1-17,22
X	WO 96 31612 A (BRAUN CARL JOSEPH III ;GREEN CHARLES EDWARD (US); SEMINIS VEGETABL) 10 October 1996 (1996-10-10) the whole document	22
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A	WO 93 05163 A (DANISCO) 18 March 1993 (1993-03-18) page 11, line 5 - line 14 page 12, line 10 - line 22 page 13, line 3 - line 16 ---	22
A	CHEN FENG: "High cell density culture of microalgae in heterotrophic growth." TRENDS IN BIOTECHNOLOGY, vol. 14, no. 11, 1996, pages 421-426, XP002184011 ISSN: 0167-7799 the whole document ---	1-22
A	ZASLAVSKAIA LIUDMILA A ET AL: "Transformation of the diatom Phaeodactylum tricornutum (Bacillariophyceae) with a variety of selectable marker and reporter genes. " JOURNAL OF PHYCOLOGY, vol. 36, no. 2, April 2000 (2000-04), pages 379-386, XP002184012 ISSN: 0022-3646 the whole document ---	1-22
A	LEWIN J ET AL: "UTILIZATION OF GLUTAMATE AND GLUCOSE FOR HETEROTROPHIC GROWTH BY THE MARINE PENNATE DIATOM NITZSCHIA-LAEVIS" MARINE BIOLOGY (BERLIN), vol. 47, no. 1, 1978, pages 1-8, XP001041529 EN ISSN: 0025-3162 the whole document ---	1-22
A	DROOP M R: "HETEROTROPHY OF CARBON" STEWART, W D (ED ) BOTANICAL MONOGRAPHS, VOL 10 ALGAL PHYSIOLOGY AND, vol. 1974, no. 1975, 1975, pages 530-559, XP001041504 ENGLAND (DIST IN U S BY UNIVERSITY OF CALIFORNIA PRESS: BERKELEY, CALIF ) ISBN 0-520-02410-9 1975) the whole document ---	1-22

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A	<p>HELLEBUST J A ET AL: "HETEROTROPHIC NUTRITION"                      WERNER, DIETRICH (ED ) BOTANICAL MONOGRAPHS (OXFORD), VOL 13 THE, 1977, pages 169-197, XP001041488                      BERKELEY, CALIF, USA ISBN 0-520-03400-7 1977                      the whole document -----</p>	1-22

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